Circuit Analysis II (AC)

University Electrical Engineering · Vocabulary in context

Word	Example
ac circuit analysis	Use phasors for sinusoidal steady-state **AC circuit analysis**.
phasor /ˈfeɪzɔː/	A **phasor** holds amplitude and phase; the frequency is understood.
impedance /ɪmˈpiːdəns/	Ideal inductive **impedance** magnitude rises with frequency; capacitive impedance magnitude falls.
complex power	**Complex power** splits into real watts and reactive var. var
power factor	**Power factor** compares real power with apparent power.
power-factor correction	**Power-factor correction** adds a capacitor to cancel a motor's reactive current.
natural frequency /ˈnætʃərəl ˈfriːkwənsi/	A swing has its own **natural frequency**.
damping /ˈdæmpɪŋ/	**Damping** makes the swing slowly stop.
overdamped	**Overdamped** responses decay without oscillating.
critically damped	This **critically damped** circuit returns without repeated oscillations.
underdamped	**Underdamped** responses ring at the damped frequency.

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q factor	A high **Q factor** means a sharp, narrow resonance.
resonance /ˈrezənəns/	Series RLC **resonance** occurs when inductive and capacitive reactances cancel. RLC
bandwidth /ˈbændwɪdθ/	A fast connection has a high **bandwidth**.
filter /ˈfiltə/	A low-pass **filter** reduces high-frequency signals.
bode plot	**Bode plot**s show magnitude and phase against logarithmic frequency.
corner frequency	For this RC low-pass filter, angular **corner frequency** equals 1/(RC). RC 1/(RC)
decibel	Doubling the power adds about three **decibels**, written 3 dB. 3 dB
two-port	A **two-port** network has two pairs of external terminals.
cascade	Multiply ABCD matrices in connection order for **cascade**d two-port networks. ABCD